SECTION 1

INTRODUCTION:

EXPLORING THE PROCESS OF ASSESSMENT AND OTHER RELATED CONCEPTS

- ***The Nature Of Assessment***
- ***The Definition Of Assessment***
- ***The Difference Between Testing, Measurement And Evaluation***
- ***Characteristics of Assessment, Measurement And Evaluation***

Assessment of student learning requires that the classroom teacher review the nature of assessment in order to effectively link teaching, learning and assessment.

Before we proceed, here are seven principles which emphasize the importance of assessment – ***The Nature of Assessment.***

The classroom teacher must know: (Rowntree, 1997)

1. How to assess:

Teachers must select from among all the techniques at their disposal.

Traditional
- Oral
- Written

Alternate
- Authentic
  - Performance
    - Process
    - Product

2. What to assess:

Teachers must be aware and decide what they are looking for in the individuals involved in the learning process.

Student
- Achievement
- Performance
- Behaviour
- Personality
- Interests
- Values
- Attitudes

Teacher
- Methods
- Approaches
- Enthusiasm

3. When to assess:

Teachers must establish the purpose for assessment to be administered.

- Before instruction
- During instruction
- After Instruction

4. What instruments to use:

Teachers must be knowledgeable of the variety of methods available to assess students' performance and patterns of behaviour.

- Standardized Tests
- Teacher-made Tests
- Observation schedules
- Questionnaires
- Inventories

5. The developmental level of the students:

Teachers must use their knowledge of learning theories to plan appropriate assessment corresponding to students' level of development, as well as individual differences.

- Chronological
- Mental
- Physical
- Emotional

6. How to interpret results:

Teachers must consider the purpose and consequence of assessment to facilitate the method of interpreting scores.

- Norm-referenced
- Criterion-referenced

7. Then provide feedback:

Teachers must share strengths and weaknesses with the stakeholders of education.
- Students
- Parents
- Administrators
- Policy makers

DEFINITION OF ASSESSMENT:

ASSESSMENT of student learning requires the use of a number of techniques for measuring achievement. This is done through a systematic process that plays a significant role in effective teaching. It begins with the identification of learning goals and ends with a judgement concerning how well those goals have been attained. Thus for *Linn and Gronlund (2000, 31-32) assessment is:*

> *"A general term that includes the full range of procedures used to gain information about student learning (observations, ratings of performances or projects, paper-and-pencil tests) and the formation of value judgments concerning learning progress…. "*

For Savage & Armstrong (1987):

> *"*Assessment includes o*bjective data from measurement … (and) from other types of information, some of which are subjective (anecdotal records and teacher observations and ratings of student performance). In addition … assessment also includes arriving at value judgments made on the basis of subjective information."*

N.B. Some authors may use assessment synonymously with evaluation. For example, Mehrens & Lehmann (1984,5) who define evaluation as the *"process of delineating, obtaining, and providing useful information for judging decision alternatives."*

In each of the definitions above, a process is outlined. It is clear that some sort of instrument/technique must be administered/used in order to obtain data/information. This data/information can then be used to judge the level of understanding or standard of student performance in relation to knowledge, skills, attitude and pattern of behaviour.

In considering the process of assessment the following view is very important.

"Measurement is the handmaiden of instruction. Without measurement, there cannot be evaluation. Without evaluation, there cannot be feedback. Without feedback, there cannot be good knowledge of results. Without knowledge of results, there cannot be systematic improvement in learning (Parnell, 1973, 2698; in Mehrens & Lehmann 1984,7).

Assessment of student performance and patterns of behaviour may be associated with negative effects such as anxiety, bias, unfairness, labeling, and traditionalism. However, there are many benefits associated with the purposes of assessment.

PURPOSES OF ASSESSMENT:

The purposes of assessment can be outlined as follows:

- Judging pupils' mastery of skill and knowledge;
- Evaluating the instructional method;
- Ascertaining effectiveness of curriculum;
- Encouraging good study habits;
- Measuring growth;
- Ranking pupils;
- Diagnosing difficulties;
- Providing feedback;
- Motivating students;
- Reporting to stakeholders;
- Certifying examinees.

➢ Mehrens & Lehmann (1984, 7–12) conclude that the main purpose of assessment, therefore, is to make **EDUCATIONAL DECISIONS.**

These include the following:

- Instructional decisions (teacher & students)
- Guidance decisions
- Administrative decisions
- Research decisions

Generally, we want to find out about our students in order to make decisions related to:

- *Placement*
- *Selection*
- *Aptitude*
- *Achievement*
- *Classification*
- *Guidance*
- *Promotion*

In order to answer the above questions, that is, ***"How well does the individual perform?"*** we must conduct **frequent assessment** activities.

When conducting assessment – test, measurement and evaluation - we should ask the following questions to guide the purpose and decision-making.

Placement: **(entry behaviour)**
"Have the students already achieved the intended outcomes?"

"Do the students have the prerequisite skills to proceed to the next topic or unit?"

Formative: (during instruction)
"Which learning tasks are students handling satisfactorily? … Need help with?"

Diagnostic:(during instruction)
"Which students need remedial work?

Summative: (end of instruction)
What grade should I assign to each student?"

"Is the method I am using effective?"

DIFFERENTIATING BETWEEN TEST, MEASUREMENT AND EVALUATION

In this handbook ***evaluation*** is viewed as the final stage in the assessment process, which is preceded by ***testing*** and ***measurement.*** Here is an example to clarify the difference/link between Test, Measurement and Evaluation.

Mrs. H is the teacher at Grade 3. She has new students who were promoted from Grade 2.
Consider the following **assessment process: - Based on the definition by Linn and Gronlund (2000)**

Step 1.
She establishes Purpose: She wishes to conduct an **assessment** to find out *"Can the students add one digit numbers to two digit numbers up to fifteen successfully?"*
Step 2:
She administers a set of questions: a **'Test'** or an instrument or specific procedure for sampling a set of questions. This will help her to find out "How well' each student performs in comparison to each other (norm-referenced) or in comparison with a domain of performance tasks (criterion-referenced).
Step 3:
She marks students' work: She obtains a numerical value or score called the **'Measurement'**. Thus she finds out "How much" each student scores.
Step 4:
She makes value judgment: That is, she makes an '**Evaluation'** of students' performance. She judges whether they have the prerequisite skills to proceed to the next level or if she has to reteach the concept re. the purpose.

N.B When a teacher sifts and interprets the measurement he/she has obtained, he/she is performing an evaluation exercise

Table 1.1 Differentiating Between Test, Measurement And Evaluation

TESTS	MEASUREMENT	EVALUATION
A subject teacher constructs and administers a set of items to assess student performance in (any subject area) *N.B. student characteristics can also be obtained using non-testing devices* *The guidance counselor has each student complete an interest inventory, attitude scale and a personality test*	*The items are scored. This produces a set of numbers that indicate **how** each student is performing in relation to other students or in comparison to a standard.* • *High performing and low performing students are identified.* • *Positive and negative attitudes, interest and different personalities are also identified.*	*If a student lacks perseverance, is failing (subject area) and has a negative attitude towards the subject, then he/she can be advised that his/her choice of career in (profession) is hopelessly unrealistic.* *If a student is creative, loves (subject area) and does well, then she can be advised in her ambition to become a (profession).*

DECISIONS SHOULD BE BASED ON SOUND CRITERIA!!!.

Four main characteristics – **reliability, suitability, objectivity and validity** - should be considered when preparing to assess. These characteristics, therefore, are also essential in planning testing, measurement and evaluation.

Table 1.2 Characteristics of Assessment, Measurement and Evaluation

Reliability	*Suitability*	*Objectivity*	*Validity*
*Refers to the assessment obtained with an assessment instrument *Consistency of test scores or assessment results from one measurement to another *Inter rater – consistency of scores between raters *Intra rater - Consistency of scores given by the same rater at different times	*Appropriateness of the item in relation to: • Age level of students • Objective being tested • Content taught	*Free of subjective judgment *Degree to which equally competent scorers obtain the same measurement *Can affect reliability and validity of scores	*Accuracy *Concerned with adequacy and appropriateness of the interpretation and use of assessment results – **Criterion-related** *How well the sample tasks are representative of the domain of tasks or content to be measured**- content-related** *The correspondence between achievement test items and the instruction for which the test is built. ***Construct –related** *Does the test measure what it sets out to measure?

In order to ensure a high degree of **reliability**, **suitability**, **objectivity** and **validity** there are several approaches the teacher can utilize.

How can the teacher improve Reliability?

- Avoid ambiguous questions and directions or instructions.
- Sample more items with similar content.
- Use well defined scoring/marking schemes.
- Train raters/markers in an effort to standardize marking or interpretation of students' work

How can the teacher improve Suitability?

- Match items to objectives.
- Keep students' reading level and age in mind when designing tests/exams.
- Give enough time to complete tasks.

How can the teacher improve Objectivity?

- Provide clear scoring scheme or criteria especially for performance tasks and supply items e.g. essays.
- Design (select) items to ensure only one correct response e.g. multiple choice.

How can the teacher improve Validity?

- Design a table of specifications.
- Test only what is taught.
- Consider 'for whom' and 'for what'.
- Ensure that instructions are clear.
- Use item types that enhance reliability of tests – both subjective and objective items.
- Ensure appropriate sampling content.
- Determine which low discriminating items to discard after item analysis.
- Pay attention to scoring procedures and test administration.

Gronlund (2000) points out: "The degree of validity is the single most important aspect of a test". Furthermore, the teacher must be aware of the many factors which may influence the validity of tests measurement, or evaluation results at any given time in the assessment process. Therefore, the teacher must pay attention to:

(1) the test;
(2) administration and scoring;
(3) pupil's responses;
(4) the group and the criterion.

These factors are outlined below.

VALIDITY:

Factors which may influence Validity:

1. **Factors in the test**:
    a. Unclear directions
    b. Poor sentence structure
    c. Inappropriate level of difficulty of items
    d. Poorly constructed test items
    e. Ambiguity
    f. Test items inappropriate for items being measured
    g. Test too short
    h. Improper arrangement of items
    i. Identifiable patterns of items

2. **Factors in test administration and scoring:**
    a. Insufficient time to complete test
    b. Unfair aid to individuals
    c. Cheating
    d. Unreliable scoring of items e.g. essays
    e. Adverse conditions (physical; psychological)

3. **Factors in pupils' responses**:
    a. Invalid test interpretations
    b. Emotional disturbances
    c. Test anxiety
    d. Set pattern of answering

4. **Nature of the group and the criterion**:
    a. Age
    b. Sex
    c. Ability level
    c. Educational background
    d. Cultural background